



Appl. No. 10/727,625
Amdt. Dated September 1, 2006
Reply to Office Action of June 1, 2006

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A forward error correction apparatus using turbo codes, comprising:
 - a decoder, ~~adapted to~~ for iteratively decoding an input frame on a symbol basis until an iterative decoding stop command is received under a predetermined control, and ~~outputting the~~ an absolute reliability of each symbols in the frame and a-prior information and extrinsic information for the symbols;
 - a measurement detector, ~~adapted to~~ for detecting the a minimum of the absolute reliabilities as a measurement;
 - a threshold detector, ~~adapted to~~ for detecting a threshold comprising a number of different signs of using a-priori information and extrinsic information of each for the symbols;
 - a comparator for comparing the measurement with the threshold; and
 - a controller, ~~adapted to compare the measurement with the threshold~~ for receiving a comparison result from the comparator and outputting the iterative decoding stop command according to the comparison result.
2. (Currently Amended) The forward error correction apparatus of claim 1, wherein the controller ~~is further adapted to~~ outputs the iterative decoding stop command if the measurement exceeds the threshold.

3. (Currently Amended) The forward error correction apparatus of claim 1, wherein the threshold detector ~~is further adapted to comprise~~ comprises:

an OR gate, ~~adapted to a for perform~~ performing logical OR-operation on the ~~signs~~ signs of the a-priori information with the signs of the extrinsic information; and

a counter, ~~adapted to for receive~~ receiving a signal from the OR gate and ~~count~~ counting ~~the a number of the different~~ signs between the a-priori information and the extrinsic information.

4. (Currently Amended) The forward error correction apparatus of claim 3, wherein the threshold detector ~~is further adapted to comprise~~ comprises:

a multiplier, ~~adapted to for multiply~~ multiplying the counted ~~value~~ number of different signs from the counter by a compensation value according to quantization of the symbols input to the decoder.

5. (Currently Amended) The forward error correction apparatus of claim 1, wherein the measurement detector ~~is further adapted to comprise~~ comprises:

a first selector, ~~adapted to for receive~~ receiving an initial value and the minimum absolute reliability of the first symbol of the input frame, and ~~selects~~ selecting at least one of the initial value and the minimum absolute reliability according to a select signal received from the controller;

a comparator, ~~adapted to for receive~~ receiving the absolute reliability and the output of the first selector, ~~compare~~ comparing the absolute reliability with the output of the first selector, and ~~output~~ outputting a select signal according to the a comparison result; and

a second selector, ~~adapted to for receive~~ receiving the absolute reliability and the output of the first selector, and ~~select~~ selecting as the minimum absolute reliability ~~one of the absolute~~ reliability with the output of the first selector according to the select signal received from the comparator,

wherein minimum absolute reliability is sequentially measured for the symbols of the frame and ~~the minimum of the minimum absolute reliabilities~~ is selected as the measurement.

6. (Currently Amended) A forward error correction method using turbo codes, comprising the steps of:

iteratively decoding an input frame on a symbol basis until an iterative decoding stop command is received under a predetermined control, and outputting ~~the an~~ absolute reliability of each ~~symbol~~ symbols in the frame and a-priori information and extrinsic information for the symbols;

detecting ~~the a~~ minimum of the absolute reliabilities as a measurement;

detecting a threshold comprising a number of different signs of ~~using the a-priori~~ information and extrinsic information ~~of for the each symbol~~ symbols; and

comparing the measurement with the threshold; and

outputting the iterative decoding stop command according to the comparison result.

7. (Original) The forward error correction method of claim 6, wherein the iterative decoding stop command is output if the measurement exceeds the threshold.

8. (Currently Amended) The forward error correction method of claim 6, wherein the ~~detecting of the threshold-detection step~~ comprises the steps of:
performing a logical OR-operation on the sign of the a-priori information with the signs of the extrinsic information; and
counting the number of the different signs between the a-priori information and the extrinsic information using an OR-operated value.

9. (Currently Amended) The forward error correction method of claim 8, wherein the ~~detecting of the threshold-detection step~~ further comprises the step of multiplying the counted number of different signs ~~value~~ by a compensation value according to quantization of input decoder symbols.

10. (Currently Amended) The forward error correction method of claim 6, wherein the ~~detecting of a minimum of the absolute reliabilities-measurement-detection step~~ comprises the steps of:
selecting one of an initial value and the minimum absolute reliability of an input symbol;

comparing the absolute reliability with the selected value and outputting a select signal according to ~~the~~ a comparison result;

selecting as the minimum absolute reliability ~~one of~~ the absolute reliability with the selected value according to the select signal; and

sequentially measuring the minimum absolute reliabilities of the symbols of the frame and outputting ~~the minimum of~~ the minimum absolute reliabilities as the measurement.